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Indian Standard

SPECIFICATION FOR FAT EXTRACTION APPARATUS FOR MILK AND MILK PRODUCTS

(*First Revision*)

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SPECIFICATION FOR FAT EXTRACTION APPARATUS FOR MILK AND MILK PRODUCTS

(First Revision)

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Indian Standard

SPECIFICATION FOR FAT EXTRACTION APPARATUS FOR MILK AND MILK PRODUCTS

(First Revision)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 13 August 1973, after the draft finalized by the Dairy Products Sectional Committee had been approved by the Agricultural and Food Products Division Council.

0.2 The gravimetric method for the determination of fat has been covered in **IS** : 1479 (Part II)-1961*. This standard covers the specification for fat extraction apparatus.

0.3 This standard was first issued in 1963. This revision incorporates additional apparatus such as fat extraction tubes with wash bottle, alternative fat extraction tubes and Rohrig tubes. General provisions of the quality of glass have also been made more precise in this revision.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard specifies fat extraction apparatus suitable for extraction of fat from milk and milk products for determination of fat.

2. TERMINOLOGY

2.0 For the purpose of this standard following definitions shall apply.

2.1 Annealing — A process to prevent or remove objectionable stresses in glass by controlled heating at and/or cooling from a suitable temperature.

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*Methods of test for dairy industry: Part II Chemical analysis of milk.

†Rules for rounding off numerical values (*revised*).

2.2 Blisters — Relatively large bubbles or gaseous inclusions of more than 2 mm in minimum diameter in any direction. These shall be measured by the average of the maximum and minimum dimensions.

2.3 Bubbles — Gaseous inclusions of 0·5 to 2 mm in minimum diameter in any direction. These shall be measured by the average of the maximum and minimum dimensions.

2.4 Stones — Imperfections in glass resulting from inclusions from such sources as batch materials, refractories and blow pipes or resulting from devitrification of glass.

3. REQUIREMENTS

3.1 Pattern and Dimensions — The pattern of the extraction apparatus shall be as shown in Fig. 1 to 5. It is recommended that dimensions given in Fig. 1 to 5 may be followed, as far as possible.

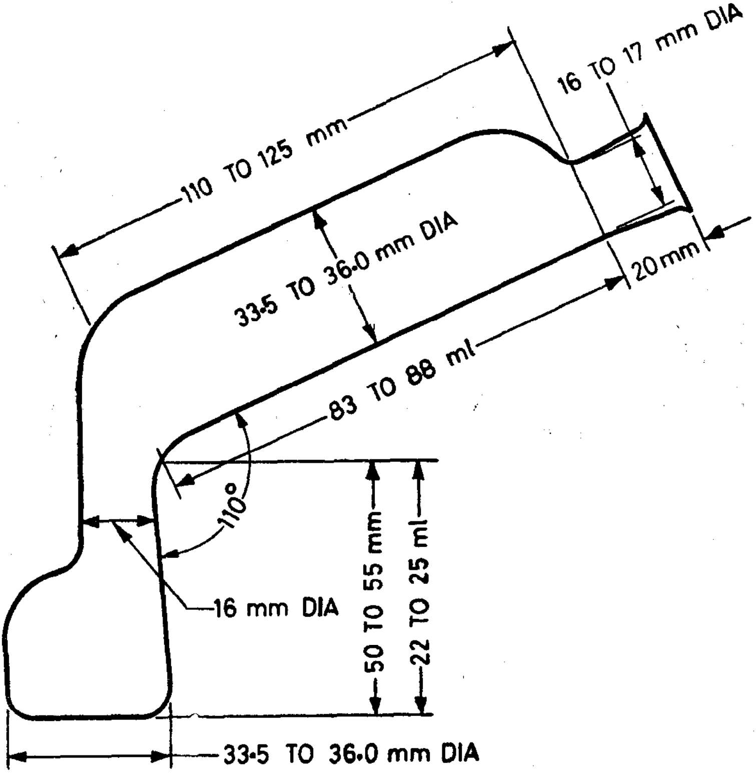

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FIG. 1 MOJONNIER FAT EXTRACTION APPARATUS

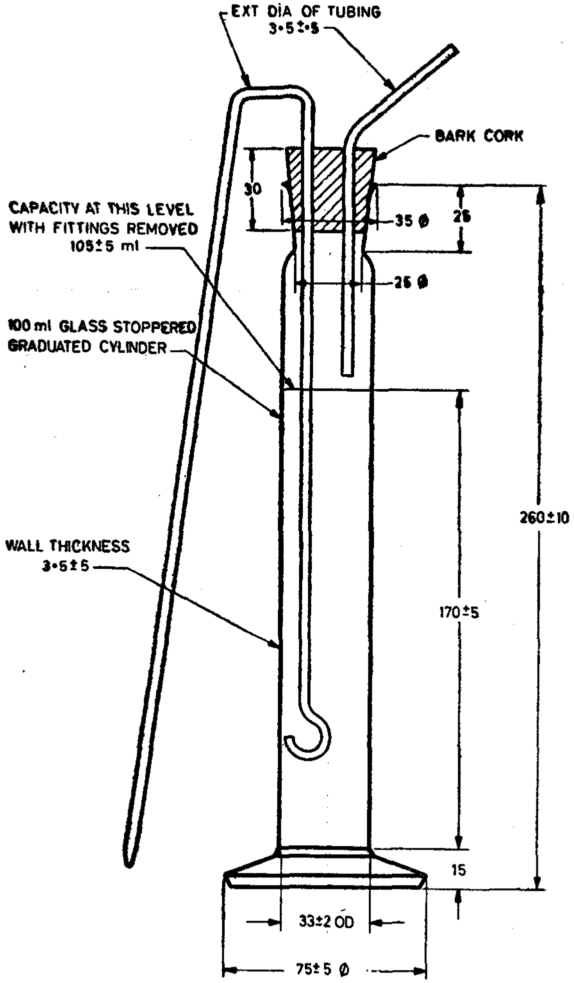

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FIG. 2 FAT EXTRACTION TUBE WITH SIPHON

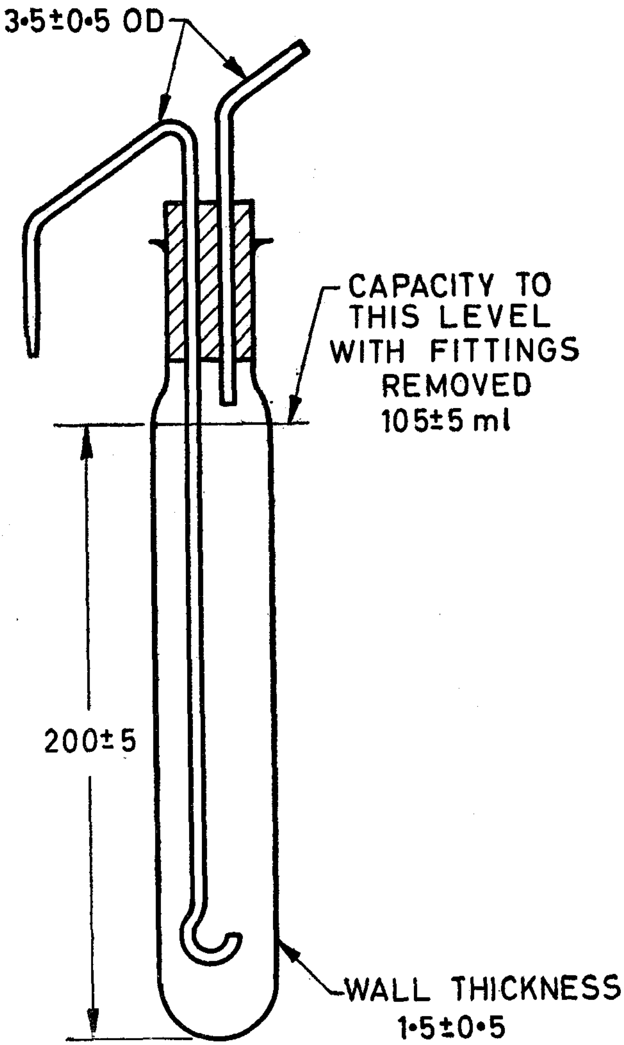

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FIG. 3 FAT-EXTRACTION TUBE WITH WASH-BOTTLE FITTINGS

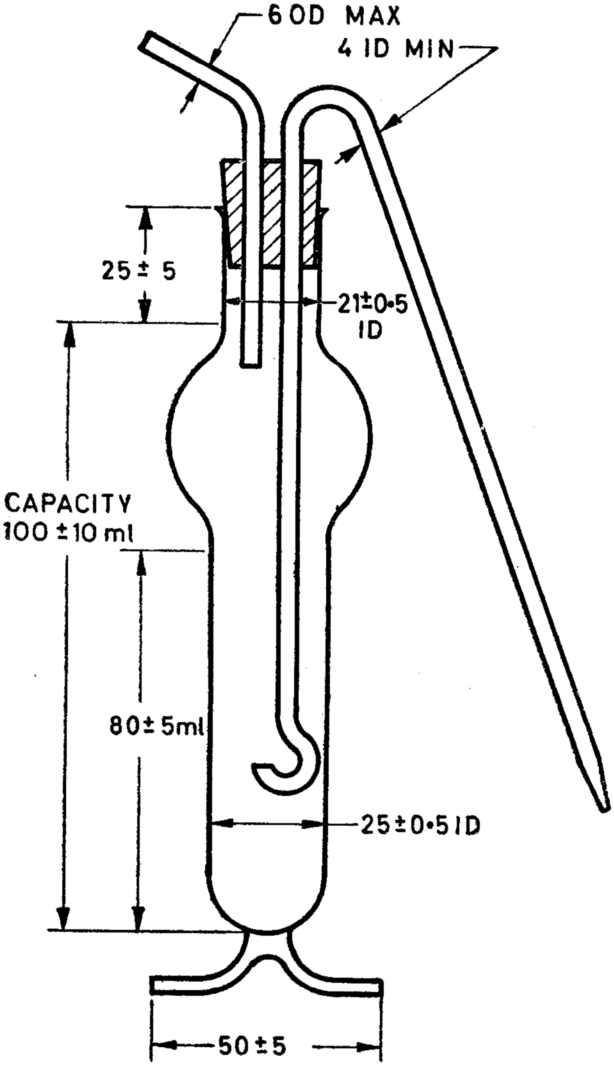

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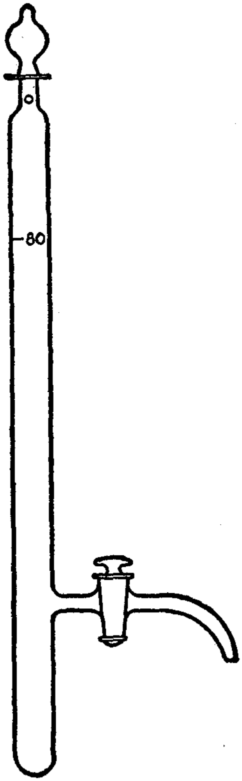
FIG. 4 ALTERNATIVE FAT EXTRACTION TUBE



All dimensions in millilitres.

FIG. 5 RÖHRIG TUBE

3.2 Material and Workmanship — The extraction apparatus shall be made from colourless chemical-resistant glass. The apparatus shall be well annealed and free from stones, blisters, cracks and as far as possible from bubbles and other visible defects also.

3.2.1 *Closures* — Bark corks, ground-glass stoppers or other suitable closures may be used. Rubber closures shall not be used. Bark corks should be of good quality and shall be freed from fat by extracting successively with diethyl ether and light petroleum. Corks so treated shall be kept for at least 15 minutes in water at 60°C or above and then allowed to cool in water so that they get saturated when used.

3.3 Limit of Alkalinity — The extraction apparatus shall conform to Type 2 glass when tested according to IS : 2303-1963*.

3.4 The siphon tube terminating in a hook (*see* Fig. 2 to 4) shall be a sliding fit in the cork and long enough for the opening at its lower end to be situated, if necessary, at a distance of 25 mm from the bottom of the cylinder in which it is enclosed.

3.5 The fat extraction apparatus shall have ground surface of about 200 mm^2 to be suitably marked with pencil.

4. INSCRIPTIONS

4.1 Each apparatus shall be permanently and legibly marked on its outer surface with the following information:

a) Manufacturer's name or registered trade mark, and
b) Nominal capacity in millilitres.

4.1.1 The fat extraction apparatus may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard, under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

5. SAMPLING

5.1 Representative samples of the extraction apparatus shall be drawn as prescribed in Appendix A.

APPENDIX A

(*Clause* 5.1)

SAMPLING PROCEDURE FOR FAT EXTRACTION APPARATUS

A-1. SCALE OF SAMPLING

A-1.1 Lot — In any consignment, all the fat extraction apparatus belonging to the same batch of manufacture, shall be grouped together to constitute a lot.

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*Method of grading glass for alkalinity.

A-1.2 Samples shall be tested from each lot separately for ascertaining conformity of the lot to the requirements of this specification.

A-1.3 The number of fat extraction apparatus to be selected from a lot shall depend upon the size of the lot and shall be in accordance with col 1 and 2 of Table 1.

TABLE 1 SCALE OF SAMPLING

No. of Apparatus in the Lot *N* (1)	No. of Apparatus to be Selected *n* (2)
Up to 15	3
16 ,, 25	5
26 ,, 40	7
41 ,, 65	10
66 ,, 100	15

A-1.4 The samples shall be selected at random and for this purpose random number table (*see* IS : 4905-1968*) may be used. In case such tables are not available, the following procedure may be used:

> Starting from any apparatus, count them as 1, 2, 3, ... up to *r*, where *r* is the integral part of *N*/*n* (*N* and *n* being the lot and sample size respectively). Every *r*th apparatus thus counted shall be withdrawn to constitute the sample.

A-2. NUMBER OF TEST AND CRITERIA FOR CONFORMITY

A-2.1 All the fat extraction apparatus selected in **A-1.3** shall be examined for pattern and dimensions (*see* **3.1**), material and workmanship (*see* **3.2**), and the other requirements given in **3.3** to **3.5**.

A-2.2 The lot shall be considered as conforming to the requirements of the characteristics mentioned in **A-2.1**, if all the samples tested satisfy all the requirements.

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*Methods for random sampling.

(*Continued from page* 2)

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2025-1962	Cylindrical pipettes for bacteriological examination of milk
2808-1964	Capillary pipette for direct microscopic count of milk
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3507-1966	Methods of sampling and test for butter
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